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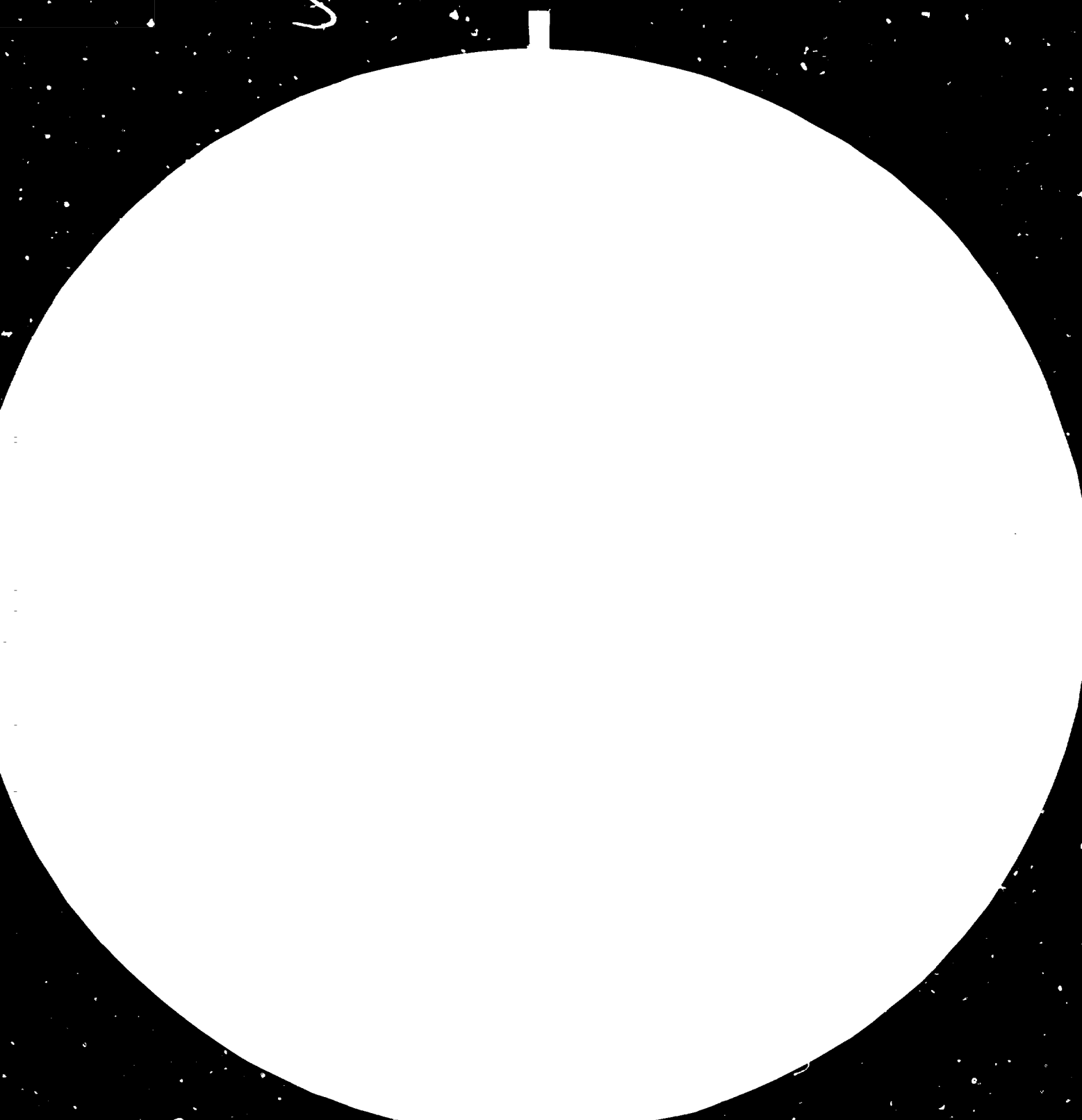
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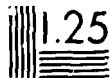
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Resolution test patterns for visual acuity measurement.

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TECHNOLOGY SERVICES DELIVERY SYSTEM (TSDS) EXPERIENCES
IN THE PHILIPPINES,
TECHNOLOGY RESOURCE INSTITUTION (TRI) EXPERIENCES - II *

by

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A. Background

The food industry is considered one of the most important sectors in the manufacturing group. It comprises about 35.35% of the gross domestic product of the country. Statistics also show that 90% of all manufacturing enterprises belong to the cottage, small and medium scale industries. Investment to this industry constitutes the biggest amount totalling P175.76 millions in terms of loan of which P28.07 millions have been allotted to food programs and projects. Reports further show that out of 3,3900 food manufacturing establishments 2,858 (85.6%) are small scale operations which employ 5 to 19 workers and contribute 2.2% of the total industry output. The remaining 532 establishments constitute the larger food industries employing 20 or more workers and contributing 13.5% of the total output.

It is clear that food manufacture will continue to play a major role in the economy of the country. The food industry is however beset with multifaceted problems. Some of these are enumerated as follows:

1. The problem of transforming traditional cottage industries into modern small factories due to:
 - a) the conservative attitude of the people which cause them to use antiquated methods and practices.
 - b) lack of knowledge and understanding of modern management concepts and techniques.
 - c) lack of funds for the acquisition of simple facilities and equipment.
2. The lack of knowledge of proper quality control techniques coupled with the lack of appreciation for the role of quality control in productivity and marketability.

3. The lack of technology testing centers which can provide the link-up between research laboratories and industry. There is a need to translate technological findings from the laboratory to pilot or small scale level and to test the feasibility for commercial application.

For years there have been attempts at resolving those problems. Such efforts are exemplified among others by:

1. establishment of the U.P. Institute of Small Scale Industries for manpower development for small and medium scale industries (SMI)
2. allocation of government loan funds to small scale industries made available through various lending institutions.
3. creation of the Bureau of Small and Medium Scale Industries of the Ministry of Trade and Industry to attend to the needs of the SMI's.

While this has the capability to provide managerial consultancy services, problems that are highly technical in nature are still referred to research and educational institutions.

B. Objectives:

The main objectives of the Product Research Assistance Project of UP - BSMI are as follows:

1. To provide technical assistance to existing SMI's particularly with regards to product/process improvement and development including pilot production for consumer testing and data gathering for feasibility studies.
2. To provide consultancies and technical services for SMI's.
3. To implement training programs in food technology for the SMIs and their technical staff.
4. To initiate the formation of regional food industry groups (common group approach) which could serve as a forum for dissemination of technical information and research findings. It is hoped that these groups will eventually undertake cooperative efforts leading to the solution of common problems.

C. Methodology/Approaches

The projects were undertaken by three (3) Technology Resource Institutions (TRI) which have the capability and expertise to conduct research activities as well as implement training programs suited to the needs of the regions. The TRI's were selected on the basis of their available resources and technical expertise in the area of food science and technology.

The Department of Food Science and Nutrition of the U.P. Diliman has gained a fine reputation of being a rich source of technical expertise in the area of food science and technology. Realizing its responsibility to contribute to the nation's industrial development program, the department has extended its expertise to the food manufacturing sector by conducting short term non-credit courses in food preservation and processing in the past ten years.

The other two TRI are the Food Technology Research Division of the Institute of Science and Technology and the Department of Food Science and Technology, College of Agriculture, U.P., at Los Baños.

The TRI's are supported at the regional level by the Small Business Assistance Centers (SBAC) of the MTI. Other national or regional agencies may be invited to participate depending on the nature of individual projects to be undertaken.

1. Identification of Industry Groups (IG's)

The SBAC's situated in the various regions identified groups of existing food processing establishments to which assistance on product research may be offered. Information on the characteristic of targeted industry groups such as area of concentration, number firms, average size, present markets, perceived common problems etc. are gathered to serve as basis for the determination of specific project plans. A proposal from the IG's concerning the nature and scope of assistance requested may then be formulated.

2. Implementation of specific project plans.

A project coordinator from the TRI together with a representative of the BSMI visit the targeted industry group in the region to discuss with the SBAC possible approach to the implementation of the research project. These project teams of the three coordinating agencies (TRI, BSMI and SBAC) conduct dialogues and plan visit with the industry groups to draw up specific project places, If the IG is receptive to the project and is economically feasible in the region, the TRI proceeds with the implementation of the research and development studies (R & D). The latter includes laboratory scale to pilot or small scale production for consumer testing.

At the conclusion of the research activities, laboratory results and other relevant information are discussed with the IG through a workshop with the IG through a workshop demonstration seminar. Related topics such as technical information on quality control procedures plant sanitation, the management aspects, packaging may also be disseminated in the seminar.

Possible market tie-ups and trading companies or large corporations may be identified. Government agencies such as Food Terminal Inc. National Cottage Industries (NACIDA), Bureau of Plant Industry (BPI) and others who may provide technical assistance to IG in the commercial application of the R. & D results can help support the project.

D. Funding :

The TRI's were allotted a budget of P100,000.00 each for at least a period of one year and to accommodate in the project at least 4 regions. A memorandum of agreement was made and entered into and between the institution and the Bureau of Small and Medium Industries of the Ministry of Trade and Industry.

E. BSMI - U.P. Dilimar Project

The Department of Food Science and Nutrition (DFSN) of the University of the Philippines, Diliman, has undertaken 2 studies under the TSDS - QCPI Project.

The first project was the product improvement of dried mangoes. The targetted recipients were the dried mangoproducers of Cebu, an island in the Visayan Region of the country where mangoes are grown abundantly. The common problem identified by SBAC was the deterioration of quality of the dried mangoes after several days of storage. Added to this was the lack standardized dried mango products. With the above problems the Department launced the first project with the objective of improving the dried mango products. After the studies were made, the research was disseminated to the processors.

Another project undertaken was on mushrooms. This project was referred by the SBAC of Region I or Ilocos Region where button mushrooms are grown and sold fresh or canned. In order to help the mushroom growers and processors, the project team launched the second project assistance with the aim of developing a dried mushroom product and improving the method of processing for canned products. Dissemination of research results were done after the studies.

In conclusion, the Department hopes that the TSDS experience will be a continuing relationship between the Ministry and U.P. so as measures in helping the SMI can be effectively done.



